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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/334,193	06/16/1999	DENNIS J. O'SHAUGHNESSY	1375P1	5063

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PPG INDUSTRIES INC
INTELLECTUAL PROPERTY DEPT
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EXAMINER

MCNEIL, JENNIFER C

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 07/15/2003

23

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/334,193

Applicant(s)

O'SHAUGHNESSY, DENNIS J.

Examiner

Jennifer McNeil

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34,36-38 and 40-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-34 and 42-45 is/are allowed.
- 6) ☒ Claim(s) 36-38,40 and 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 38 and 40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 38 and 40 depend from claim 36. Claim 36 has been amended to reflect a protective layer that may be a heat convertible metal layer, wherein this layer is deposited over the dielectric layer spaced the greatest distance from the substrate. Claims 38 and 38 are inconsistent with this limitation. Claim 38 recites the heat convertible layer located on the substrate before the first dielectric layer, and claim 40 recites the heat convertible layer being between the first and second dielectric layers. It is not clear what applicant intends to claim as their invention. Please clarify where the layer is found with relation to the other layers present in the coating.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 36 is rejected under 35 U.S.C. 102(b) as being anticipated by Finley (US 5,059,295).

Finley teaches a multiple-layer coated article with layers in the following order and beginning with a glass substrate: a dielectric layer of mixed tin and zinc oxides, a layer of metal (considered a first primer

Art Unit: 1775

layer), a layer of silver, another layer of metal, and a layer of mixed tin and zinc oxides, and finally a layer of titanium oxide. This embodiment has a substrate, at least one dielectric layer (the first mixed oxide layer), and the protective coating may be considered the final layering of the two oxides films.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 37 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Finley (US 5,059,295) in view of Arbab et al (EP 0803481A2). Finley teaches the low emissivity window stack as discussed above, but does not include additional dielectric and IR reflective layers. Arbab teaches a high-transmittance, low-emissivity coated article including multiple dielectric and IR layers in the stack, referred to as double stacks. This results in an article with an improved shelf life. As it is shown by Arbab that stacks having multiple dielectric and IR reflective layer are well known in the art and provide the benefit of improved shelf-life, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide Finley with additional layers to provide an article with improved shelf-life. Regarding claim 41, with an embodiment of multiple dielectric layers and silver layers intervening, the final layers of Finley taught as Ti/ZnSnO/TiO, would serve as a protective layer.

Allowable Subject Matter

Claims 1-34, and 42-45 are allowed.

Response to Arguments

Applicant's arguments filed May 6, 2003 have been fully considered but they are not persuasive.

Applicant's amendments have overcome the 112-second paragraph rejections of record.

Applicant's amendment to claim 36 has necessitated the new 112-second paragraph rejections above.

Applicant's amendment has overcome the rejection over Apfel.

Applicant argues that the Finley arrangement has the protective layer disposed on a primer layer, and applicant has amended to recite that the protective layer is not deposited on the optional first metal primer layer. Finley teaches a primer layer (Ti) formed on the first dielectric and a second primer layer disposed on the first IR reflective layer, therefore, the protective layer is disposed on the *second* primer layer.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 1775

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer McNeil whose telephone number is 703-305-0553. The examiner can normally be reached on Monday through Friday, 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 703-308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



JCM
July 11, 2003

Jennifer McNeil
Examiner
Art Unit 1775


DEBORAH JONES

SUPERVISORY PATENT EXAMINER